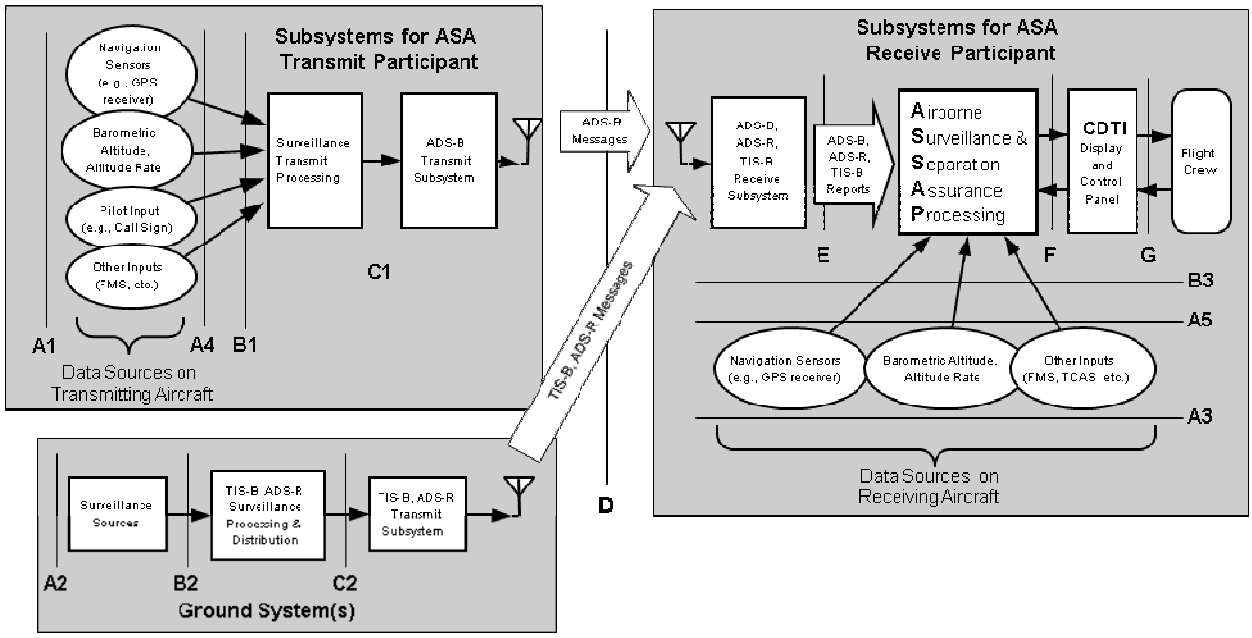
Inputs from Dean Miller on Section 3



New Figure 3-1???

3.1 System Scope and Definition of Terms

3.1.1 ASA System Scope and Definition of Terms

The ASA system scope is all of the elements depicted in Figure 3-1. It should be noted that the transmit function shown in Figure 3-1 can be implemented in either the airborne segment (ADS-B Out) or in a ground segment as for the TIS-B or ADS-R functions.

3.1.2 ADS-B System Scope and Definition of Terms

The ADS-B system scope is the middle three elements shown in Figure 3-1: Transmit subsystem / broadcast link RF medium / Receive & report generation function. It should be noted that the transmit function shown in Figure 3-1 can be implemented in either the airborne segment (ADS-B Out) or in a ground segment as for the TIS-B or ADS-R functions.

3.1.2.1 Key Definitions

This section defines key terms used throughout the document. Additional definitions are included in Appendix XX.

3.1.2.2 Own-ship

Own-ship refers to the aircraft upon which the ASA processing and display being described are physically located. The flight crew using an application is located on their own-ship.

3.1.2.3 Traffic

Traffic refers to aircraft or vehicles within the operational vicinity of own-ship.

3.1.2.4 ADS-B

ADS-B is a function on an aircraft or a surface vehicle operating within the surface movement area that periodically broadcasts its state vector (horizontal and vertical position, horizontal and vertical velocity) and other information.

3.1.2.5 TIS-B

Traffic Information Services – Broadcast (TIS-B) is a function on ground systems that broadcasts an ADS-B-like message that includes current position information of aircraft/vehicles within its surveillance volume. The aircraft/vehicle position information may be measured by a ground surveillance system such as a secondary surveillance radar (SSR) or a multilateration system.

3.1.2.6 ADS-R

Automatic Dependent Surveillance – Rebroadcast (ADS-R) is a "gateway" function on ground systems that rebroadcasts an ADS-B-like message from traffic (including surface vehicles?) that utilize one broadcast link (RF medium) to users such as airborne receive systems that utilize the other ADS-B broadcast links.

3.1.2.7 ASSAP

Airborne Surveillance and Separation Assurance Processing (ASSAP) is the processing of surveillance and other data in support of ASA applications. In addition to surveillance processing, ASSAP provides application-specific processing for the applications described in Appendices C - J.

3.1.2.8 CDTI

Cockpit Display of Traffic Information (CDTI) is the flight crew interface to the ASA system. Depending on the application, this may include graphical and aural features necessary to display traffic information, guidance and alerts. CDTI also includes a control panel so that the flight crew may choose applications, parameters and features.

3.1.2.9 Applications

Applications are the operational use of the ASA system. That is, they are the functions for which the ASA system is to be used. Some applications, such as Enhanced Visual Acquisition require only that the ASA system provide traffic information to the flight crew via the CDTI. Others, such as Airborne Conflict Management, require additional processing to analyze the surveillance data, and provide guidance and alerts to the flight crew.

3.1.2.10 Background Applications

Background applications are those applications that apply to all surveilled traffic of operational interest. These applications may be in use in some or all airspace (or on the ground), but without flight crew input or automated input to select specific traffic. Background applications include Enhanced Visual Acquisition, Conflict Detection, Airborne Conflict Management, Airport Surface Situational Awareness, and Final Approach and Runway Occupancy Awareness.

3.1.2.11 Coupled Applications

Coupled applications are those applications that operate only on specifically-chosen (either by the flight crew or automation) traffic. They generally operate only for a specific flight operation. Coupled applications include Enhanced Visual Approach, Approach Spacing for Instrument Approaches, and Independent Closely Spaced Parallel Approaches. Note that these applications may not necessarily require any cooperation from the traffic, other than that the necessary information to support the application must be provided through ADS-B or TIS-B.

3.1.2.12 Aircraft Surveillance Applications (ASA)

Airborne and surface functions that use ADS-B data and on board processing to be displayed to the flight crew to enhance their situational awareness, identify potential conflicts and/or collisions, and in the future to change the ownship's spacing from other aircraft.